



Faculty of Computer Science and Information Technology

Vehicle Management System for Politeknik Merlimau Melaka

Nur Asreena Binti Zailan

(57159)

Bachelor of Computer Science with Honours (Information System)

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VEHICLE MANAGEMENT SYSTEM FOR POLITEKNIK MERLIMAU MELAKA

NUR ASREENA BINTI ZAILAN

This project is submitted in partial fulfilment of the
requirements for the degree of
Bachelor of Computer Science with Honours
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Faculty of Computer Science and Information Technology

UNIVERSITI MALAYSIA SARAWAK

2019

**SISTEM PENGURUSAN KENDERAAN UNTUK POLITEKNIK MERLIMAU
MELAKA**

NUR ASREENA BINTI ZAILAN

Projek ini merupakan salah satu keperluan untuk
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Permanent Address
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Matric No: 57159

Faculty of Computer Science and Information Technology

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ABSTRACT

Students and staffs usually need to go to the bus counter every time they want to check whether they can book the vehicle. They also have to manually apply vehicle stickers at administration office. This project proposes online booking system for students and staffs to allow them book vehicles and to register vehicle sticker online, which can be access via Politeknik Merlimau Melaka portal. The expected outcome of this proposed project is a functional Vehicle Management System which can be used for all students and staffs to provide efficient vehicle management in Politeknik Merlimau Melaka.

ABSTRAK

Pelajar dan kakitangan biasanya perlu pergi ke kaunter bas setiap kali mereka ingin memeriksa sama ada mereka boleh menempah kenderaan itu. Mereka juga perlu memohon pelek kenderaan secara manual di pejabat pentadbiran. Projek ini mencadangkan sistem tempahan dalam talian untuk pelajar dan kakitangan untuk membiarkan mereka menempah kenderaan dan mendaftar stiker kenderaan secara dalam talian, yang boleh diakses menerusi portal Politeknik Merlimau Melaka. Hasil yang diharapkan dari projek yang dicadangkan ini adalah Sistem Pengurusan Kenderaan berfungsi yang boleh digunakan untuk semua pelajar dan staf untuk menyediakan pengurusan kenderaan yang efisien di Politeknik Merlimau Melaka.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Many of the student and staff in Politeknik Merlimau Melaka experienced it is hard to contact and go to the bus counter each time they want to search whether there is available booking on the time they want to book vehicle. Besides, staff and student need to apply vehicle sticker manually at their administration office. It will take some time to do the process to book for the available vehicle to book and applying vehicle sticker manually.

Nowadays, system would be a more popular choice for user to help them to solve their daily problem. Vehicle Management System for Politeknik Merlimau Melaka is a standalone system which refer to system that does not require any software other than the operating system to run it. This computerized management system will ease the management records of booking and student information to apply vehicle sticker.

The Vehicle Management System of Politeknik Merlimau Melaka is chosen as the case study. Currently, the vehicle management in Politeknik Merlimau Melaka is done manually. Besides, the client of Politeknik Merlimau Melaka is in pleasure to give cooperation for interview session and information sharing about vehicle management at Politeknik Merlimau Melaka.

1.2 Problem statements

Currently, the vehicle management in Politeknik Merlimau Melaka is done manually, user still need to book vehicle for an event manually where the applicant who want to book the vehicle need to get the vehicle booking form, fill in the vehicle booking form, and then continue

with other procedure. This process required lots of time, space, paper, money and energy. The reason why this system took lots of time is because the student or staff needs to fill the booking form early and student need to wait for the verifier staff to approve the booking form. In addition, sometimes the applicant that want to book the vehicle faced difficulty of choosing the suitable and available vehicle. Each person had different type of handwriting, and this manual system need to fill by handwriting which sometimes the staff cannot understand applicant's handwriting and there are maybe some redundant of booking occurs. Politeknik Merlimau Melaka student and staff also must apply vehicle sticker manually. By using this system, student and staff at Politeknik Merlimau Melaka can apply their vehicle sticker online.

1.3 Scope

The scopes of this project are listed below.

- a) Focus on user which is student and staff to book the vehicle in Politeknik Merlimau Melaka without any redundant occur.
- b) Focus on user to apply vehicle sticker online using the system.
- c) This web-based system is for system administrator of Politeknik Merlimau Melaka to monitor the booking, driver, vehicle and vehicle registration details.

1.4 Objectives

The objectives of this project are:

1. To develop an online vehicle management system for Politeknik Merlimau Melaka to ease the administrative process in vehicle booking and vehicle pass application.
2. To design a module to manage the approval of vehicle booking and sticker registration by SMS notification.
3. To evaluate the system using user acceptance testing.

1.5 Brief Methodology

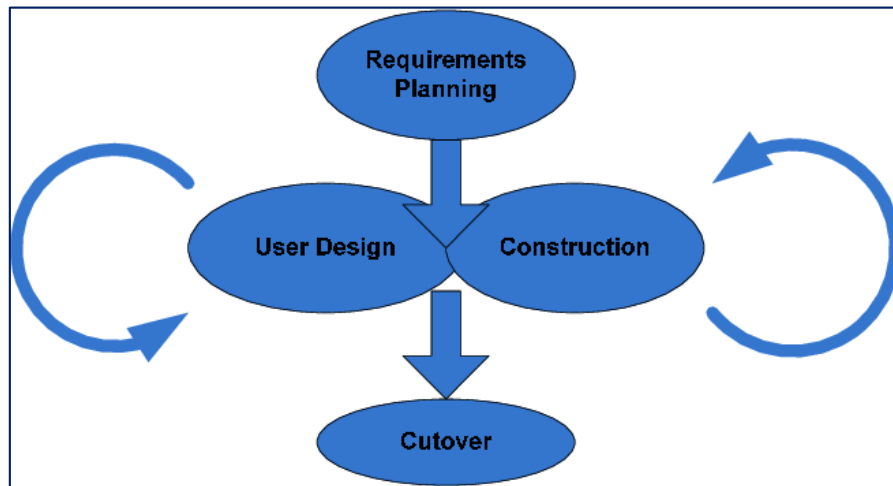


Figure 1 shows Rapid Application Development (RAD) Model (Ziman, 2011)

In this project, the Vehicle Management for Politeknik Merlimau Melaka will be developed based on the Rapid Application Development (RAD) Model. RAD model is considered as most suitable model because this methodology can reduce the development time. Other than that, the processes of RAD are more fast, stable, cheaper and less error. This methodology models This methodology model consists of 4 phases which is requirement planning, designing, construction and cutover. This is the brief description for each phase:

1.5.1 Analysis and quick design phase

The beginning phase is Analysis and quick design phase. This stage will be conducted via meetings and discussion between student and client in order to know the requirement of this project and how to design the system. During this stage, student need to identify the problem, objective and project outcome. Student need to gather the requirements through brainstorming and similar literature reviews found online. Lastly, analyze those requirements to achieve the objectives of this project.

1.5.2 Designing Phase

In this project, the system will be design by using Balsamic because it is easier do mock-up where it's had a free trial. To draw the Gantt chart to know about the development process using Microsoft Project.

1.5.3 Development Phase

During development phase, project will be developed based on the information that has been gathered during the earlier phase. The development phase will involve writing codes that will used for this system. Programming skills is needed to build the system such as PHP, CSS, HTML and MySQL language is being used to make system function properly according client requirement.

1.5.4 Cutover Phase

The final phase of Rapid Application Development is Cutover phase. Keep on testing the system as a completed module in order to make sure the whole system works efficiently. Client will test the system to ensure that system is achieving the objective and student will gather all the feedback from client. In this phase, the final prototype will be finished completely in order to be used in Politeknik Merlimau Melaka. The system will be installed in Politeknik Merlimau Melaka and user training occur.

1.6 Significance of Project

Vehicle Management of Politeknik Merlimau Melaka will help the student and staff to book for available booking by using the system without any redundant booking occur. It will save their cost and time because they do not need to go to the bus counter each time, they want to search whether there is available booking on the time they want to book vehicle.

1.7 Project Schedule

The project plan has been illustrated by using Gantt chart that show all the activities during the development process. The development of project schedule is important as a guide for developer to keep track their tasks of the project and make sure their project finish on time. This project schedule has been created using Microsoft Project 2010 to complete the Gantt Chart in order to make sure the project finish on time. The start date and end date of the whole project that involved in FYP 1 and 2 are shown in the Gantt chart.

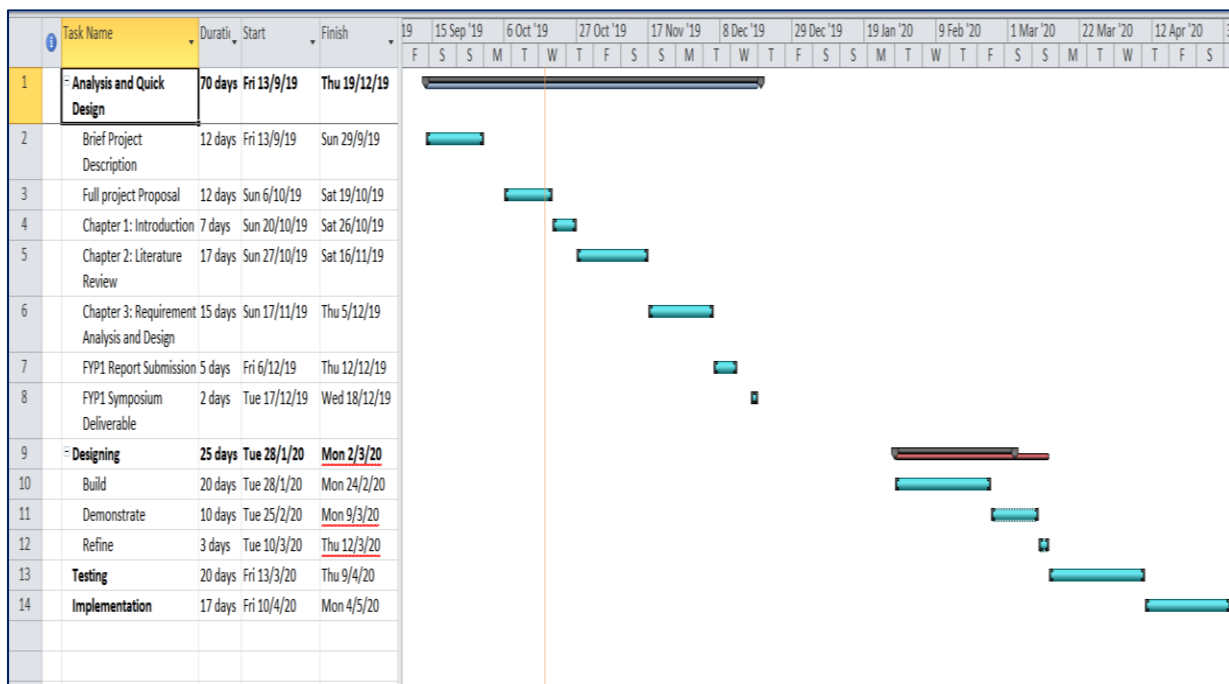


Figure 1.1 show Project Schedule for Final Year Project

1.8 Expected Outcome

Below are the outcomes of this project:

- A functioning web-based Vehicle Management System for Politeknik Merlimau Melaka.
- Final year project 1 and Final year project 2 report had been done.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

A literature review is one of the crucial parts of the project where research based on the selected area of study. This chapter includes review the existing systems, the comparison between existing systems and the proposed system. Suitable tools and technologies in developing the proposed system also will be reviewed in this chapter.

Vehicle Management System for Politeknik Merlimau Melaka mainly to help student and staff at Politeknik Merlimau Melaka to book vehicle and apply vehicle sticker online easily. This system was built to achieve the following goals:

- a) To develop a computerized vehicle management system where no redundant booking occurs.
- b) To develop a system where student and staff can book vehicle and apply vehicle sticker online easily.
- c) To develop a system to facilitate the administration process for vehicle of Politeknik Merlimau Melaka.

2.2 Background Study

Nowadays, technology is evolving from time to time in order to build better systems. There are many existing systems for vehicle management. Currently, the vehicle management in Politeknik Merlimau Melaka is done manually. User need to book vehicle for an event manually where the applicant who want to book the vehicle need to get the vehicle booking form, fill in the vehicle booking form, and then continue with other procedure. This process

will use lots of time, space, paper, money and energy. The reason why this system took lots of time is because the student or staff needs to fill the booking form early and student need to wait for the verifier staff to approve the booking form. In addition, Sometimes the applicant that want to book the vehicle faced difficulty of choosing the suitable and available vehicle.

With Vehicle Management System for Politeknik Merlimau Melaka, student and staff at Politeknik Merlimau Melaka can apply their vehicle sticker online easily. They can book vehicle conveniently because they do not have to move from one place to another place in order to book and apply sticker.

2.3 Review on Existing System

In this section, there existing systems will be a review which are UTM Vehicle Reservation Management System Ver 2.0, UNIMAS e-Booking System, Bus Online Ticket. All these systems will be compared to see the similarities of the system, the advantages and disadvantages of each system and discussion about the features proposed in the proposed system.

2.3.1 UTM Vehicle Reservation Management System Ver 2.0

UTM Vehicle Reservation Management System Ver 2.0 is a system that allow staff and student of Universiti Teknologi Malaysia to book vehicle online. Student need to login One Stop Centre for UTM students to apply sticker online and click on Vehicle Reservation link to make a reservation. To apply vehicle sticker online, they need to login One Stop Centre and go to Vehicle Sticker at the main menu navigation. Figures 2.3.1(a) to (d) shows the screenshot of UTM Vehicle Reservation Management System Ver 2.0 view when user access the system.

VRMS VERSION 2.0
VEHICLE RESERVATION MANAGEMENT SYSTEM

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Login

Login Type:

Username:

Password:

Jumlah Pelawat : 289474

Figure 2.3.1(a) shows the login page of UTM Vehicle Reservation Management System Ver 2.0

UTM VEHICLE RESERVATION MANAGEMENT SYSTEM Ver 2.0

Home Reservation

Today: 18/11/2019 3:31:20 PM

Profile

- Username: A16AJ0107
- Name: NUR FARHANA IZANI BINTI HD NAGAR
- Matric No.: 97040715326
- Department / Faculty: MALAYSIA-JAPAN INTERNATIONAL INSTITUTE OF TECHNOLOGY (IJUIT)
- Campus: UNIVERSITI TEKNOLOGI MALAYSIA KUALA LUMPUR

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Figure 2.3.1(b) shows the home page of UTM Vehicle Reservation Management System Ver 2.0

UTM VEHICLE RESERVATION MANAGEMENT SYSTEM Ver 2.0

Home Reservation

Reservation - Create Reservation

Requestor Information

Requestor Type:

Requestor ID:

Name:

Staff No. / New IC / Passport No.:

Department / Faculty:

Campus:

Handphone:

Email:

Costing Details

Booking Details

Passenger Information

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Figure 2.3.1(c) shows the reservation page of UTM Vehicle Reservation Management System

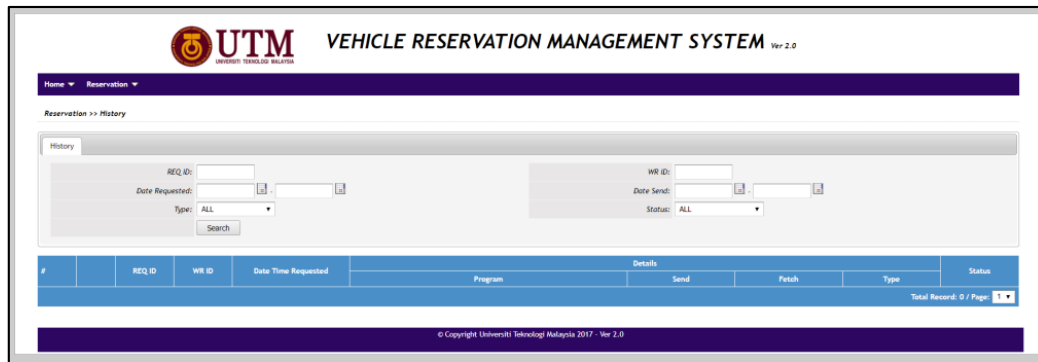


Figure 2.3.1(d) shows the reservation history page of UTM Vehicle Reservation Management System

User need to choose the login type whether the user is a staff or student. Student can login the system by fill in the matric number and IC/password number while for the staff need to fill in username and password. There are two options at the Reservation navbar which is History and Create Reservation. User need to fill in the requestor information, costing details, booking details and passenger information to make a reservation. The history of reservation made can be viewed by user.

2.3.2 UNIMAS e-Booking System

UNIMAS e-Booking is a system where student and staff of Universiti Malaysia Sarawak can make booking of a facilities such as guest houses, rooms, sport facilities and vehicle. User need to login to the system using matric number and password for UNIMAS Identity.

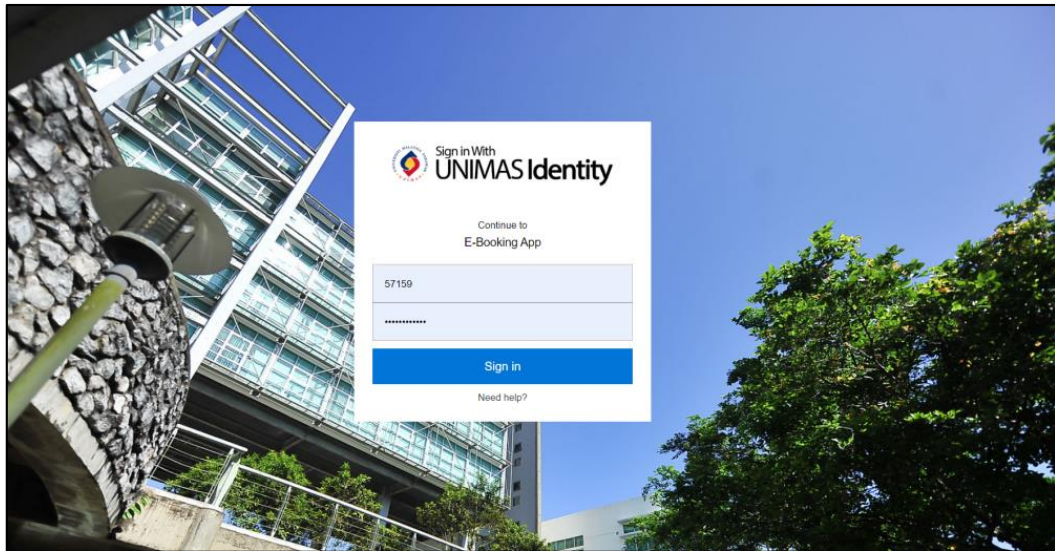


Figure 2.3.2(a) shows UNIMAS e-Booking System login page

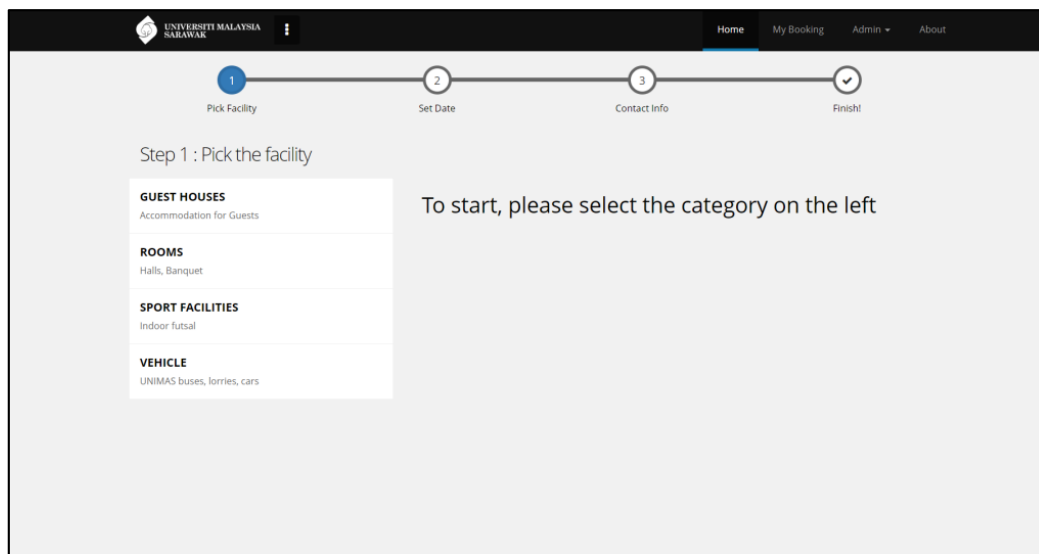


Figure 2.3.2(b) shows UNIMAS e-Booking System home page

UNIVERSITI MALAYSIA SARAWAK

Home My Booking Admin About

1 Pick Facility 2 Set Date 3 Contact Info Finish!

Step 3 : Contact Info

Booking Info

Facility BAS 44 PENUMPANG 2

Location UNIT PENGANGKUTAN

From 20-Nov-2019 05:39PM

Until 20-Nov-2019 07:39PM

Remark & Contact Info

Applicant Name NUR ASREENA BINTI ZAILAN-
Fakulti Sains Komputer Dan Teknologi (Maklumat)

Applicant Email 57159@siswa.unimas.my

Head Of Department (HoD) Select

Destination

Waiting Place

Booking Purpose

Remarks (if any)

VOT Grant

Figure 2.3.2(e) shows contact info

User need to login into the system to make a booking. User need to pick for the facilities to book. When click at the vehicle, user need to choose what type of vehicle they want to book. After choosing the vehicle, user need to set the date to book the vehicle. After that, user need to fill in the details for contact info.

2.3.3 Bus Online Ticket

Bus Online Ticket is a system where user can book available tickets such as bus tickets, train tickets, ferry tickets, airport transfer and travel packages online. The system offers a pretty complete database of all the bus, train and ferry services running in both West and East Malaysia. Besides, it also sells tickets for transportation services to neighbouring countries of Malaysia such as Thailand, Singapore and Brunei. The interface of the website is simple enough to navigate on both desktops and mobile devices. User can find the tickets based on the categories choose using web browser or mobile phone. Figures below shows the screenshot of Bus Online Ticket view when user access the system.